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# DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION FAA DEPOT STANDARD

# QUALITY CONTROL REQUIREMENTS FOR THE ACQUISITON OF EQUIPMENT ASSEMBLIES

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# QUALITY CONTROL REQUIREMENTS FOR THE ACQUISITION OF EQUIPMENT ASSEMBLIES

#### 1. SCOPE

#### 1.1 Scope:

This standard establishes requirements for contractor's quality control programs. These requirements pertain to the inspection, test procedures, tests, and records necessary to substantiate that the assembly complies with and performs in accordance with its intended use.

### 1.2 <u>Definitions</u>:

For the purpose of this standard, the following definitions shall apply:

- a) Assembly A single part or a number of parts or subassemblies, or any combination thereof, joined together to perform an operational function.
- b) Unit A collection of parts, subassemblies and assemblies mounted together on a single chassis, or packaged together as a physically independent entity.

# 2. APPLICABLE DOCUMENTS

# 2.1 Military Standards and Specifications:

The following military standards and specifications, of the issue in effect on the date of the invitation for bids or request for proposals, form a part of this standard and are applicable to the extent specified herein:

ISO 10012-1 International Standard,

Quality Assurance Requirements for Measuring Equipment, Part 1: "Meteorological Confirmation System for

Measuring Equipment.

NCSL Z540-1 (ANSI)/National Conference of Standards Laboratories,

General Requirements for Calibration Laboratories and

Measuring and Test Equipment.

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ANSI/ASQC Z1.4

American National Standard.

Sampling Procedure and Tables for Inspection by Attributes

MIL-HDBK-454

General Guidelines for Electronic Equipment

Copies of specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.

#### 2.2 Precedence:

When conflicts exist between the requirements of the contract and this standard, the contract shall take precedence. When conflicts exist between the requirements of this standard and its referenced documents, this standard shall take precedence.

#### 3. REQUIREMENTS

#### 3.1 Requirements:

The equipment assembly and all its parts shall perform its required function when used in the equipment unit for which it was designed.

#### 3.2 Workmanship:

Workmanship shall be in accordance with MIL-HDBK-454.

#### 4. QUALITY ASSURANCE PROVISIONS

#### 4.1 Test:

Each assembly shall be tested for correct function and operation in accordance with 3.1.

#### 4.2 Test Method:

The contractor shall prepare the necessary list of detailed specifications, tests, test procedures, and test data forms. The test procedures shall be complete and in sufficient detail to permit evaluation of their adequacy in demonstrating compliance with 3.1 without physical examination of the test facility. Test procedures shall include specific detailed information of the test setup identifying connection points, test points, controls, and input and output data. Supplementary description information shall be furnished on any special test equipment, tools, or fixtures utilized in the test and shall include drawings, theory of operation, and analysis of measurement accuracy.

#### 4.3 Test Data Form:

The contractor shall prepare a test data form for each assembly tested. The test data form shall show the assembly name, manufacturer's name, manufacturer's part number, serial number, national stock number (NSN), and the contract number, if assigned, otherwise, the purchase order number and date. The test data form shall indicate, for each test, the applicable detailed specification, specific test, and the performance limits stated therein, and it shall provide for the recording of all observed data and intermediate steps or mathematical calculations which may be involved in determination of the final measurements. All data shall be quantitative and each final entry shall be in units directly comparable to the specification limits. The original test data form shall be signed and dated by the contractor's test person and countersigned as witnessed by the FAA representative when the contract calls for factory inspection.

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#### 4.3.1 Distribution of Test Data Form:

One (1) copy of the completed test data form shall accompany the equipment. A second copy shall be furnished the FAA representative. If no FAA representative is present, the second copy shall be forwarded to the FAA contracting officer.

# 4.4 Approval of Test Methods:

Three (3) copies of the test method (4.2) proposed by the contractor shall be furnished to the FAA contracting officer or his representative at least twenty (20) days in advance of the contractor's scheduled date for testing to allow the government time to review and evaluate. A copy will be returned to the contractor, either with a statement that the proposed method is approved, or with a statement pointing out deficiencies to the proposed method. In the event of the latter, the contractor shall submit his revised method. The approved method shall be used for testing.

# 4.5 Measuring and Test Equipment:

The contractor shall provide and maintain all measuring and test equipment in accordance with ISO 10012-1 and NCSL Z540-1.

#### 4.6 Inspection:

At the discretion of the FAA, inspection may be accomplished at either the contractor's plant or at the FAA Depot, and will include verification that the equipment assembly meets the electrical and mechanical performance parameters of this standard. Assemblies may be subjected to either 100 percent inspection, lot-by-lot sampling, or continuous sampling plans as determined by the FAA. In either case, the Acceptable Quality Level (AQL) will be 1.0 percent for critical defects, 2.5 percent for major defects, and 6.5 percent for minor defects as defined in ANSI/ASQC Z1.4.

# 5. PREPARATION FOR DELIVERY

### 5.1 General:

The assembly shall be prepared for delivery as provided in the contract.